REVISED NOMENCLATURE FOR TAXA IN WYNTER-BLYTH'S BOOK ON THE BUTTERFLIES OF INDIAN REGION

R. K. VARSHNEY1

INTRODUCTION

The BUTTERFLIES OF THE INDIAN REGION by M. A. Wynter-Blyth (1957, Bombay Natural History Society; 1st ed., 523 pp., 27 coloured and 45 black-and-white pls.) is still the latest book on its subject. On account of its life-like illustrations, keys, and details of habits and habitats recorded, this book will remain a companion to the novice as well as expert butterfly collector, for a long time to come.

Unfortunately, the scientific names used in this book for the butterfly genera and species, are in many cases old and invalid, according to the rules of Zoological nomenclature. Although this book was published in 1957, it appears to me that its text was probably prepared during early forties. Many of the scientific names then valid have later turned out to be synonyms. Hence, a revision has become quite essential. That these changes were felt necessary even at the stage of printing of this book itself, is evident from such entries made in three families, Papilionidae, Pieridae and Hesperiidae: "Genus Zetides (now Graphium)" [p. 400], "Colotis protractus (Butler), now C. phisadia (Godart)" [p. 439], "Baoris oceia (now B. farri)" [p. 484] etc. These corrections are obviously inadequate and incomplete.

¹ Gangetic Plains Regional Station, Zoological Survey of India, Rajendra Nagar, Patna (Bihar). *Present address*: Superintending Zoologist, Zoological Survey of India, 34 Chittaranjan Avenue, Calcutta-700 012.

Therefore, I have prepared a list of all such names given in this book, in which either the genus name, or species name, or the latter's author name, requires correction; and alongwith provided the present valid name of that taxa. If a particular subspecies, other than nominal subspecies, has been found to completely cover the geographical distribution shown by Wynter-Blyth for a species, then it has been added in the revised nomenclature. The page numbers of his book are cited on the left, for ready reference. It may be stated that all those genera and species, which do not require any change in their nomenclature, have been left out. Besides, no attempt has been made to show all subspecies under a species. I have, however, given explanatory taxonomic notes on some major changes, in the beginning of each family. In the present paper, only five families have been covered. It is hoped that remaining families will be dealt with in subsequent contributions.

It is hoped that these notes and lists of revised nomenclature for the taxa of butterflies from India and other neighbouring countries, would be useful to the workers on butterflies in general and to those consulting Wynter-Blyth's book in particular.

Family DANAIDAE

Three genera are known from the Indian region. Wynter-Blyth has given their names as *Hestia*, *Danais* and *Euploea*. *Hestia* Hübner, 1816, is a synonym of *Idea* Fabr., 1807 [vide Talbot, 1941, *Trans*. R. ent. Soc. Lond. 91

(4): 105-117]. Danais Latr., 1807, is a synonym of Danaus Kluk, 1802, as per Opinion No. 278, of 1954, of the International Commission of Zoological Nomenclature. I have elsewhere given details of this case and indicated that Kluk published Danaus for the first time in 1780 and his 1802 work is a subsequent citation [Varshney, 1973, Curr. Sci. 42 (19): 698-699].

The common tiger butterfly of this region has been referred by two different names in the literature: Danaus plexippus (Linn.) and D. genutia (Cramer). Talbot [1947, FAUNA OF BRITISH INDIA—Butterflies, 2nd ed., 2], whom I have largely followed for revision of this family, has chosen the name plexippus and I differ in this case. It is now well esta-

blished that the type specimens of plexippus named by Linnaeus came from North America; hence, that American species, the monarch, has presently *D. plexippus* as its valid name. The Indo-Oriental species has been found to be quite different from that American species, thus it should be appropriately referred as *D. genutia*, the next oldest name applied to it. My conclusion is in agreement with the decision of the International Commission, now widely accepted [vide Editors, 1960, J. Bombay nat. Hist. Soc. 57 (1): 230-231].

The correction of the case-ending -ii to -i in all patronymic names formed after male persons has been introduced by me, in accordance with rules. [see Table 1].

TABLE 1
DANAIDAE

	Page No	o. For	Correct
1.	64	Genus Hestia [Hübner]	Genus Idea Fabricius
2.	**	Hestia lynceus Moore & de Niceville	Idea lynceus (Drury)
3.	64-70	Genus Danais [Latreille]	Genus Danaus Kluk
4.	65	Danais aglea (Cramer)	Danaus aglea (Stoll)
5.	66	Danais tytia (Gray)	Danaus sita sita (Kollar)
6.	67	Danais fumata Butler	Danaus taprobana (C. & R. Felder)
7.	,,	Danais limniace Cramer	Danaus limniace leopardus (Butler)
8.	68	Danais melissa (Cramer)	Danaus hamata (McLeay)
9.	69	Danais plexippus (Linnaeus)	Danaus genutia (Cramer)
10.	,,	Danais melanippus (Cramer)	Danaus melanippus indicus (Frühstorfer)
11.	71	Euploea alcathoe (Godart)	Euploea doubledayi doubledayi C. & R. Felder
12.	72	Euploea crameri Moore	Euploea crameri Lucas
13.	73	Euploea coreta (Godart)	Euploea sylvester coreta (Godart)
14.	,,	Euploea crassa Butler	Euploea klugi erichsoni C. & R. Felder
15.	74	Euploea godarti Lucas	Euploea core godarti Lucas
16.	,,	Euploea corus (Fabricius)	Euploea phaenareta corus (Fabricius)
17.	76	Euploea deione Westwood	Euploea algea deione Westwood
18.	97	Euploea harrisi Felder	Euploea sylvester harrisi C. & R. Felder
19.	-,,	Euploea diocletiana (Fabricius)	Euploea diocletianus (Fabricius)
20.	77	Euploea klugii Moore	Euploea klugi klugi Horsfield & Moore

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Family SATYRIDAE

The nomenclature used by Wynter-Blyth for the taxa of this family are generally valid. However, in three genera, *Mycalesis*, *Lethe* and *Ypthima*, he has not provided the names

of authors of the species included. These may be found in Talbot [1947, FAUNA OF BRITISH INDIA—Butterflies, 2nd ed., 2: 110-344].

Major generic changes in the present list are as follows: *Eumenis* Hübner, 1819, is a synonym of *Hipparchia* Fabr., 1807, with its spe-

TABLE 2 SATYRIDAE

	Page No.	For	Correct
1.	83	Mycalesis francisca (Cramer)	Mycalesis francisca (Stoll)
2.	84	Mycalesis gotama Moore	Mycalesis gotama charaka Moore
3.	,,	Mycalesis orseis Hewitson	Mycalesis orseis nautilus Butler
4.	86	Mycalesis subdita (Moore)	Mycalesis visala subdita (Moore)
5.	87	Mycalesis mercea Evans	Mycalesis igilia mercea Evans
6.	-,,	Mycalesis khasia Evans	Mycalesis intermedia (Moore)
7.	90	Mycalesis mamerta	Mycalesis annamitica Frühstorfer
8.	94	Lethe distans race nilgiriensis	Lethe rohria neelgheriensis (Guérin)
9.	,,	Lethe distans race dyrta	Lethe rohria rohria (Fabricius)
10.	,,	Lethe distans race rohria	Lethe rohria rohria (Fabricius)
11.	97	Lethe sinoryx	Lethe sinorix (Hewitson)
12.	100	Lethe violaceopicta	Lethe violaceopicta kanjupkula Tytler
13.	,,	Lethe ocellata	Lethe ocellata lyncus de Nicéville
14.	,,	Lethe gemina	Lethe gemina gafuri (Tytler)
15.	102	Lethe armandii	Lethe armandii khasiana (Moore)
16.	,,	Lethe badra	Lethe bhadra (Moore)
17.	103	Pararge moorei (Butler)	Rhaphicera moorei Butler
18.	104	Pararge satricus (Doubleday)	Rhaphicera satricus (Doubleday)
19.	106	Coenonympha myops Staudinger	Coenonympha myops macmahoni (Swinhoe)
20.	106-108	Genus Eumenis [Hübner]	Genus Hipparchia Fabricius
21.	107	Eumenis mnizechii Herrich-Schaffer	Hipparchia mniszechii (Herrich-Schaffer)
22.	108	Eumenis persephone (Hübner)	Hipparchia persephone enervata (Staudinger)
23.	,,	Genus Karanasa [Moore]	Genus Hipparchia Fabricius
24.	113	Erebia shallada Lang	Erebia shallada Marshall & de Nicéville
25.	115	Ypthima asterope	Ypthima asterope mahratta Moore
26.	116	Ypthima hübneri	Ypthima ceylonica huebneri Kirby
27.	117	Ypthima avanta	Ypthima lisandra (Cramer)
28.	121	Coelites nothis (Boisduval)	Coelites nothis adamsoni Moore
29.	122	Neorina patria Leech	Neorina patria westwoodi Moore
30.	,,	Genus Anadebis [Butler]	Genus Ethope Moore
31.	, ,,	Melanitis leda (Drury)	Melanitis leda ismene (Cramer)
32.	123	Melanitis phedima Cramer	Melanitis phedima (Stoll)
33.	127	Elymnias singala Moore	Elymnias singhala Moore
34.	128	Elymnias nesaea (Hewitson)	Elymnias nesaea (Linnaeus)
35.	129	Elymnias pealii Wood-Mason	Elymnias peali Wood-Mason
36.	,,	Elymnias penanga (Westwood)	Elymnias penanga chelensis de Nicéville

cies falling under *Dryas* group. *Karanasa* Moore, 1893, is also a synonym of *Hipparchia* Fabr., with its species falling under *Actaea* group. Genus name *Anadebis* Butler, 1867, was proposed as a new name for genus *Theope* Moore, 1857, which was preoccupied. However, a replacement name *Ethope* Moore, 1866, was published by Moore himself as a substitute for *Theope*, before the publication of *Anadebis*. Hence, *Anadebis* is suppressed in favour of *Ethope*.

Although Talbot (loc. cit.) has been generally followed, however, his attempt to change Ypthima watsoni to Y. pandocus watsoni is not adopted here, in view of the study by Cantlie & Norman [1959, J. Bombay nat. Hist. Soc. 56: 66]. The species-group name Y. hübneri is corrected by me as huebneri, under the provisions of Article 32(c)(i) of nomenclature rules. [see Table 2].

Family AMATHUSIIDAE

Nine genera are included by Wynter-Blyth in this family. The names used for all of them are correct and valid, except one genus, 'Sti-

copthalma' or 'Stichopthalma' (sic). It seems Wynter-Blyth followed Evans [1932, THE IDENTIFICATION OF INDIAN BUTTERFLIES, 2nd ed.: 132] who has also erroneously spelt it. It should be correctly spelt as Stichophthalma [vide Hemming, 1934, Generic names of Holarctic Butterflies:51].

Among the species names, some changes in the present list are as follows: Stichophthalma sparta is now considered as a subspecies of S. louisa, but it is recorded from North-Eastern Burma only; while the subspecies found from Assam to Burma is S. 1. tytleri [Talbot, 1947, FAUNA OF BRITISH INDIA—Butterflies, 2nd ed., 2: 421-423]. Thauria lathyi is presently considered as one subspecies of T. aliris, and its distribution is restricted to Southern Shan States of Burma. Discophora tullia has been merged in D. sondaica zal, but since Wynter-Blyth has shown wide distribution of tullia, I am unable to restrict it to that subspecies only. Faunis arcesilaus has been found as an invalid name and substituted with canens arcesilas, following Stichel [1933, LEP. CAT.—Amathusiidae, 54: 73]. [See Table 3].

TABLE 3
AMATHUSIIDAE

	Page No	: For	Correct
1.	132	Faunis arcesilaus (Fabricius)	Faunis canens arcesilas Stichel
2.	133	Genus Sticopthalma	Genus Stichophthalma Felder (C.) & Felder (R.)
3.	,,	Stichopthalma sparta Tytler	Stichophthalma louisa tytleri Rothschild
4.	134	Thaumantis diores Westwood	Thaumantis diores Doubleday
5.	,,	Thauria lathyi Frühstorfer	Thauria aliris (Westwood)
6.	,,	Amathusia phidippus (Johanssen)	Amathusia phidippus (Linnaeus)
7.	135	Discophora tullia (Cramer)	Discophora sondaica Boisduval
8.	138	Discophora continentalis Moore	Discophora timora timora Westwood

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Family Papilionidae

The nomenclature of Papilionid butterflies included in Wynter-Blyth's book needs to be revised on large scale. Most of the generic names of this family used there, are now considered as invalid, while some groups of species need to be transferred en-bloc from one generic name to another, thus, changed combinations for many species will result, as indicated in the list below (Table 4).

by Evans in their books, was replaced with *Polydorus* Swainson, by Talbot [1939, FAUNA OF BRITISH INDIA-Butterflies, 2nd ed., 1: 70] reporting that it is the oldest name among several synonyms of this genus. However, *Polydorus* also proved to be a preoccupied name. Corbet [1943, *Entomol.* 76: 206] stated that it should be substituted by *Atrophaneura* Reakirt, with which Talbot [1947, op. cit. 2: 490] agreed. Contrastingly, Eugene Munroe [1961, *Can. Ent.* 93 suppl. 17] has replaced

TABLE 4
PAPILIONIDAE

	Page No	. For	Correct
1.	373-378	Genus Tros [Kirby] (now	Genus Atrophaneura Reakirt
		Polydorus)	
2.	378	Tros alcinous (Klug) now plutonius	Atrophaneura plutonius (Oberthür)
		(Oberthür)	
3.	379-381	Genus Chilasa [Moore]	Genus Papilio Linnaeus (Clytia Group)
4.	380	Chilasa paradoxa (Zinken-Sommer)	Papilio paradoxa telearchus Hewitson
5.	384	Papilio memnon Linnaeus	Papilio memnon agenor Linnaeus
6.	386	Papilio elphenor Doubleday	Papilio elephenor Doubleday
7.	392	Papilio polytes Linnaeus	Papilio polytes romulus Cramer
8.	397-400	Genus Pathysa [Reakirt] (now	Genus Graphium Scopoli
0	100 101	Graphium)	
9.	400-404	Genus Zetides [Hübner] (now	Genus Graphium Scopoli
1.0	400	Graphium)	C. I (Falataria)
10.	402	Zetides evemon (Boisduval)	Graphium evemon albociliatis (Fruhstorfer)
11.	403	Zetides euryplus (Linnaeus)	Graphium curypylus cheronus (Fruhstorfer)
12.	404 405	Zetides bathycles (Zinken-Sommer)	Graphium bathycles chiron (Wallace)
13.	404-405	Genus Paranticopsis [De Nicéville & Wood-Mason] (now Graphium)	Genus Graphium Scopoli
14.	406	Genus Meandrusa [Moore] (now	Genus Graphium Scopoli
14.	400	Graphium)	Genus Graphium Scopoli
15.		Meandrusa payeni (Boisduval)	Graphium payeni evan (Doubleday)
16.	,, 407	Genus Leptocircus [Swainson] (now	
10.	407	Lamproptera)	Genus Lampropiera Gray
17.	408	Genus Armandia [Blanchard]	Genus Bhutanitis Atkinson
17.	400	Genus Armanana [Blanchard]	Genus Dimininis Atkinson

Changes in the names of genera are as follows: Armandia Blanchard is preoccupied and should be substituted by Bhutanitis Atkinson. Tros Kirby, used by Wynter-Blyth and earlier

Polydorus by another name Pachlioptera Reakirt. On examining the case, I have observed that (i) Pachlioptera is an incorrect subsequent spelling of Pachliopta Reakirt; (ii) both

of these replacement names, Atrophaneura and Pachliopta, have been published in a single paper, entitled, 'Notes upon exotic Lepidoptera, chiefly from the Philippine Islands, with descriptions of some new species', by Reakirt [1865 (1864), Proc. ent. Soc. Philadelphia 3: 443-504]; and (iii) being published in the same work and on the same date, the relative precedence is to be accorded on the choice made by the first reviser, according to the rules of nomenclature. In this case, Atrophaneura has been chosen by Corbet [1943, loc. cit.] and Hemming [1964, Annot. Lep. 3: 84]. Hence, Atrophaneura shall have to be taken as the valid name of this genus.

Four generic names, viz., Pathysa Reakirt, Zetides Hübner, Paranticopsis De Nicéville & Wood-Mason, and Meandrusa Moore, which have been used in the book by Wynter-Blyth, have all been merged as synonyms of the genus Graphium Scopoli [vide, Hemming, 1934, GENERIC NAMES OF HOLARCTIC BUTTER-FLIES: 151], and indication to this change has been made in Wynter-Blyth's book Peile [1937, A GUIDE TO COLLECTING BUTTER-FLIES IN INDIA: 20-39] has treated Graphium and 5 other genera as merely "groups of the genus Papilio Linn.", but his action has not been followed by later workers in the case of Troides, Polydorus (now Atrophaneura), and Graphium. Chilasa Moore was also treated as a separate genus by Talbot [1939, loc. cit.], but he later on [Talbot, 1947, ibid. 2: 491] relegated it to the position of a "species group of Papilio", following Ford [1944, Trans. R. ent. Soc. London, 94: 206]. Generic name Leptocircus Swainson has been found invalid and a junior objective synonym of Lamproptera Gray [Hemming, 1934, ibid.: 1531.

Among species names, only one case requires comment. Talbot [1947, ibid. 2: 491]

has reported that the species name *Polydorus* aristolochiae (Fabr.) is strictly preoccupied by *Atrophaneura ascanius* (Linn.) and that the Indian subspecies will be diphilus (Esper). This change has not been followed by me, because the specific name aristolochiae (Fabr.) has been upheld by the International Commission of Zoological Nomenclature, in its Opinion No. 265, in 1954.

The subspecies names in this series have been given in such cases only, where either a subspecies, other than nominal, occurs within the whole Indian region, or where the geographical distribution shown by Wynter-Blyth for a species, has been found to clearly indicate any particular subspecies. [See Table 4].

Family PIERIDAE

Jiri Paclt pointed out the philological inconvenience of this family name Pieridae and suggested that in accordance with its type genus *Pieris*, the grammatically correct and valid name would be Pierididae. Hemming, however, did not like this change and as Secretary to the International Commission on Zoological Nomenclature, he arranged the use of Plenary powers to validate the spelling "Pieridae" as against "Pierididae" [vide, Hemming, 1956, *Bull. zool. Nomencl.*, 12: 291-306].

Among the generic names of this family used in the book by Wynter-Blyth, the following changes are indicated here: *Huphina* Moore, 1881, is invalid and found to be a junior synonym of *Cepora* Billberg, 1820. *Belenois* Hübner, 1819, has been merged in *Anaphaeis* Hübner, 1819. I further observe that Talbot [1939, FAUNA OF BRITISH INDIA—Butterflies, 2nd ed., *I*] has spelt it as *Anapheis* throughout; and given Klots as author of *Belenois*, but Hemming [1967, *Bull. Br. Mus. nat.*

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Hist., Ent. Suppl. 9: 42] shows that the original lettering is Anaphaeis, and the author of Belenois is Hübner. Generic name Parenonia was proposed by Bingham [1907, FAUNA OF BRITISH INDIA—Butterflies, 1st ed., 2: 276] to replace Valeria Horsfield, 1829, which Bingham thought erroneous due to the tautonymy in the name of genus and its type species, valeria Cramer. This being untenable, the name Valeria Horsfield is restored. Genus Terias Swainson, 1821, is synonymous with Eurema Hübner, 1819; vide, Talbot 1939 [op. cit.] which has been largely followed for revision of this Part.

A confusion exists regarding validity between the two species names, nerissa Fabricius and coronis Cramer, for the type species of genus Cepora; both names having been proposed in 1775. Examining this case, I find that the International Commission of Zoological Nomenclature in its Opinion No. 516, of 1958, has ruled that the work of Fabricius is to be given priority over that of Cramer. Hence, it can be concluded that nerissa has precedence over coronis, on the subjective taxonomic ground. This derivation, however,

is not in agreement with Peile [1937, A GUIDE TO COLLECTING BUTTERFLIES IN INDIA], which shows *coronis* as valid name.

Similarly, in the case of validity to be accorded to one of the two species names, calais Cramer and amata Fabricius, for the type species of genus Colotis, I consider amata as the prior name, on the basis of same ground given for nerissa above. In this case, my derivation is not in agreement with Talbot [1939, op. cit.], and Wynter-Blyth, who have shown calais as the valid name.

Numerous authors have reported that *Catopsilia crocale* and *C. pomona* interbreed in the nature and are, thus, conspecific [see, Talbot, 1947, op. cit. 2: 493]. However, the specimens assigned to these names are morphologically well-differentiated and they are neither sexual forms nor seasonal forms of each other. Hence, under the circumstances, I am of the opinion that instead of treating them entirely synonymous, they may be retained as two separate subspecies as *C. crocale crocale* and *C. crocale pomona*, under *C. crocale* (Cramer), which is the prior name among the two. [See Table 5].

TABLE 5
PIERIDAE

	Page No	. For	Correct
		Subfamily	Pierinae: Whites
1.	415	Aporia leucodyce (Eversmann)	Aporia leucodice (Eversmann)
2.	419	Delias thysbe (Cramer)	Delias acalis (Godart)
3.	421-422	Genus Huphina [Moore] (now	Genus Cepora Billberg
		Cepora)	1
4.	425	Genus Belenois [Hübner] (now	Genus Anaphaeis Hübner
		Anaphaeis)	
5.	••	Belenois mesentina (Moore) now	Anaphaeis aurota (Fabr.)
		A. aurota (Fabricius)	
6.	426	Appias lalage (Doubleday)	Appias pandione (Geyer)
7.	429	Appias albina (Boisduval)	Appias albina darada (C. Felder & R. Felder)

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	Page No	o. For	Correct
8.	431	Appias nero (Fabricius)	Appias nero galba (Wallace)
9.	434	Pieris brassicae (Linnaeus)	Pieris brassicae nepalensis Doubleday
10.	435	Pieris rapae (Linnaeus)	Pieris rapae iranica Le Cerf
11.	,,	Pieris (now Pontia) daplidice (Linnaeus)	Pontia daplidice moorei (Röber)
12.	.,,,,	Pieris (now Pontia) glauconome (Klug)	Pontia glauconome Klug
13.	436	Euchloe ausonia (Hübner)	Euchloe ausonia daphalis (Moore)
14.	438	Colotis amata (Fabricius) now C.	Colotis amata (Fabr.)
		calais (Cramer)	
15.	439	Colotis protractus (Butler) now C. phisadia (Godart)	Colotis phisadia protractus (Butler)
16.	442-444		Genus Valeria Horsfield
		Valeria)	
17.	444	Parenonia valeria (Cramer)	Valeria valeria anais (Lesson)
		Subfamily: Coli	adinae: Yellows
18.	446	Catopsilia pomona (Fabricius)	Catopsilia crocale pomona (Fabr.) stat. n.
19.		Catopsilia florella (Fabricius)	Catopsilia pyranthe (Linn.)—Dry season form florella (Fabr.)
20.	448	Dercas verhueli Moore	Dercas verhuelli (Hoeven)
21.	449	Gonepteryx aspasia Ménétries,	Gonepteryx mahaguru mahaguru (Gistel)
		now mahaguru (Gistel)	
22.	450-454	Genus Terias [Swainson] (now	Genus Eurema Hübner
		Eurema)	
23.	450	Terias libythea (Fabr.) now	Eurema brigitta rubella (Wallace)
		E. brigitta (Cramer)	
24.	453	Terias blanda Boisduval	Eurema blanda silhetana (Wallace)
25.	455	Colias croceus (Fourcroy), now	Colias electo fieldi Ménétries
		electo (Linnaeus)	